Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of Review of The Emergency Alert System	)	ET Docket No. 04-296

COMMENTS OF T-MOBILE ON FURTHER NOTICE OF PROPOSED RULEMAKING

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T-Mobile respectfully submits these comments on the Further Notice of Proposed Rulemaking ("FNPRM") in the above-referenced proceeding.[1] The Federal Communications Commission ("FCC" or "Commission") has sought comment on various proposals to revamp and expand the Emergency Alert System ("EAS"). Our comments here focus in particular on the Commission's inquiries concerning how and to what extent wireless carriers can and should provide EAS alerts.[2] As we show here, participation of wireless in EAS can offer an important supplement to existing alert systems. But any wireless EAS program must be designed to reflect the unique technical challenges and economic costs involved in using two-way, point-to-point networks and mobile handsets for EAS alerts, and must provide the industry and government agencies with the time and flexibility to adopt viable and productive solutions. T-Mobile looks forward to continuing to work with the government and the wireless industry to address these challenges so that the public can enjoy the unique enhancements wireless services can add to EAS.

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1 First Report and Order and Further Notice of Proposed Rulemaking, *Review of the Emergency Alert System*, EB Docket No. 04-296, FCC 05-191 (rel. Nov. 3, 2005) ("*FNPRM*").

2 *Id.* ¶ 69.

INTRODUCTION & SUMMARY

The Emergency Alert System is a critical component of this nation's public safety communications. In the face of the security challenges in the post-9/11 world, not to mention the unprecedented severity of the natural disasters that struck the United States in the past year, the importance of a system that permits the government to communicate real-time, up-to-date safety information and alerts to the public cannot be overstated. T-Mobile therefore embraces the Commission's efforts to reevaluate the EAS capabilities of today's communication systems. As part of that process, the Commission has recognized that the mobility and breadth of wireless communications can make wireless phones an important, supplemental resource to existing EAS communications systems. Indeed, T-Mobile's experience with the Federal Emergency Management Agency's ("FEMA's") wireless emergency alert service pilot project; with the wireless industry's AMBER Alerts initiative; with the provision of Wireless Priority Access service ("WPS"); and with the deployment of Enhanced 911 ("E-911"), underscores the important role that wireless service can play in supplementing other public safety communications.

At the same time, however, the Commission must recognize the unique challenges that will be involved in using wireless services and systems to provide EAS alerts. In particular, the services that historically have been used to provide EAS alerts — as well as the new cable, audio, and satellite services that are newly subject to EAS rules[3] — are all provided over point-

[3] *Id.* ¶ 17.

to-multipoint systems.[4] In contrast, wireless services are provided over point-to-point systems[5] that are not designed for simultaneous broadcast of a uniform message to all subscribers — much less an urgent message that must be delivered to all subscribers in a discrete time period. While the wireless industry is exploring means of communicating such messages, providing wireless EAS alerts will require substantial changes to carrier networks and wholesale replacement, in most cases, of consumers' handsets or devices. This transition will take time and will be extremely expensive. Further, it is not clear that there is any one solution that all carriers could use for both national and regional EAS alerts. In all likelihood, a combination of solutions will be required, and it will take time for the industry to develop any and all of these to the point that they are ready to be implemented in a meaningful or sufficient manner.

In short, these are early days. In contrast to how the Commission has proceeded with other services that share basic broadcast characteristics, the Commission should not just mandate wireless EAS participation and then import existing EAS obligations designed for other technologies. Instead, the Commission and other government stakeholders must work together with the wireless industry to develop reasonable expectations for the role wireless can play in providing EAS at the federal, state, and local levels, and in developing technological solutions to achieve the identified goals. In the interim, the Commission should proceed on a measured and

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[4] Point-to-multipoint systems, such as television and radio, are designed to broadcast uniform, centrally-designated content of some type to all viewers or subscribers simultaneously. A common bearer is used to transmit this information.

[5] Point-to-point systems are two-way systems in which each "point" or subscriber can communicate (send and receive) messages with every other point. In contrast to point-to-multipoint systems, in point-to-point systems, a unique bearer of the information must be established for each message. The origination point may be a central network server and the content may be centrally designed, but the originating point must communicate uniquely with every point.

flexible basis to encourage wireless experimentation and innovation in connection with EAS alerts.

As an initial matter, wireless provision of EAS messages must be voluntary at this time in order to provide wireless carriers with the time and flexibility first to identify reasonable expectations for wireless EAS alerts and then to devise appropriate mechanisms for successfully transmitting those messages. In addition, as the Commission generally updates its EAS rules, it should ensure that it does not technically constrain the ability of wireless carriers to adopt a variety of innovative solutions for participating in EAS. While the Commission should adopt guidelines that support and direct the development of wireless EAS, it is critical that its rules provide wireless carriers with maximum technical flexibility and enough time to upgrade their systems and replace handsets.

This is especially important because, while wireless services may provide a useful source of EAS warnings, they also are a key and sometimes unique tool for *other* types of emergency communications. Indeed, in times of disaster, wireless phones are frequently the primary means of communication for both victims and relief workers.[6] Accordingly, wireless EAS capabilities must be designed and developed in a way that will not interfere with providers' technical and economic abilities to ensure that their services can serve these other emergency communications needs. This concern highlights the need for careful consideration and design of wireless EAS capabilities.

It also highlights how important it will be for the Commission to be cognizant of the substantial costs that will be involved in retrofitting wireless systems and replacing handsets and

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[6] GSM Association, *The Role of Mobiles in Disasters and Emergencies*, Dec. 24, 2005, Version 1 ("GSM Paper").

devices to accommodate EAS. No other provider subject to EAS requirements has faced or would face such costs. Wireless carriers should not be asked to shoulder this burden without federal support. And they must be assured that their provision of EAS will be subject to a strict limitation of liability that will shield them from additional, unwarranted costs.

Even as the Commission considers the proper framework for wireless EAS, it can be assured that the industry will continue to explore wireless EAS solutions and to work with federal, state, and local government agencies to design the appropriate role for wireless services in supplementing existing EAS services. T-Mobile already is a participant in 3G Americas, a voluntary organization of GSM wireless operators and manufacturers that has been actively exploring solutions for the provision of wireless EAS; indeed, these comments reflect many of the initial considerations framing 3G Americas' efforts. And T-Mobile and other carriers continue to participate in the FEMA pilot, AMBER Alerts,[7] and other initiatives that will provide important insights about the abilities, limitations, and most effective role for wireless emergency alerts. The Commission should ensure that any rules it adopts are informed by these efforts and do not impose limitations on the development of wireless EAS solutions or unrealistic and unfair burdens on the carriers that will provide this important new emergency communications service. More generally, the Commission must be careful to adopt realistic and achievable expectations. For example, the Commission should look to the 911 handset replacement experience in adopting any timelines for EAS-capable wireless handset replacement; that experience counsels

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[7] Wireless AMBER Alerts is a voluntary arrangement among the wireless industry, law enforcement agencies, and the National Center for Missing & Exploited Children to provide free missing children notifications to subscribers who opt into the program. *See* Wireless Amber Alerts Questions and Answers, *available at* http://files.ctia.org/pdf/Wireless_AMBER_Alerts_FAQ_FINAL.pdf (last visited Jan. 23, 2006).

against overly optimistic timelines for replacement via normal market forces (i.e. attrition or handset churn driven by new features).

DISCUSSION

I. T-MOBILE'S INVOLVEMENT IN VARIOUS EMERGENCY COMMUNICATIONS INITIATIVES HAS PROVIDED VALUABLE INFORMATION CONCERNING THE ROLE AND CHALLENGES OF WIRELESS EMERGENCY COMMUNICATIONS.

T-Mobile is committed to creating an important role for wireless services in national, state, and local public safety communications of all types. Accordingly, T-Mobile has been at the forefront of several voluntary public safety initiatives in which the wireless industry has worked with various government organizations to develop specific wireless solutions for emergency communications. T-Mobile also is an active participant in the industry's early efforts to explore solutions for wireless EAS participation. These initiatives not only underscore T-Mobile's commitment to serving critical emergency communications needs; they also have helped to identify the features that wireless services are best situated to offer in supporting national, state, and local emergency responses, as well as the substantial technical and economic challenges that will have to be overcome in order to allow wireless services to fulfill that role.

T-Mobile was the first carrier to deploy WPS, a voluntary program that allows key National Security/Emergency Preparedness ("NSEP") personnel to have priority access to wireless channels during an emergency without preempting any calls in progress. WPS is a commercial, priority communications service for critical federal, state, and local emergency personnel. Wireless carriers provide WPS on a voluntary contract basis subject to basic FCC guidelines. The National Communications System ("NCS") centrally administers the program, and funds enhancements to providers' WPS infrastructure. Although implemented entirely on a

voluntary basis, WPS has now been fully implemented, only a few short years after the FCC's *WPS Order*.[8] WPS currently is available in most, if not all, service areas for carriers that use Global System for Mobile ("GSM") technologies, and is offered by T-Mobile and other carriers. WPS is a particularly well-administered public safety communications initiative, and it has provided both the government and carriers with important experience in coordinating government agency and industry needs, infrastructure planning, and cost support and management.

T-Mobile also is a participant in the National Capital Region Digital Emergency Alert System, a pilot project launched by FEMA and the Department of Homeland Security's Information Analysis and Infrastructure Protection ("IAIP") Directorate to explore how to retransmit emergency alert messages sent from a government agency through digital broadcasting to other media, including wireless. This pilot involves testing the use of digital technology to provide public alerts and warning in times of crisis. T-Mobile, along with two other wireless carriers, voluntarily participated in the first phase of this project, which involved using local public television stations' excess digital television broadcast spectrum to transmit and receive emergency alerts. The FEMA test provided an important opportunity to explore how wireless may be used together with other technologies to disseminate critical information to the public. One important lesson learned from the FEMA pilot is that the challenges in disseminating a message to a small subset of phones — the goal of the test and one that T-Mobile successfully accomplished — pale in comparison to those that would be involved in large-scale transmissions across an entire city, state, or region. The project thus highlights the

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[8] *See* Second Report and Order, *The Development of Operational, Technical and Spectrum Requirements For Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010*, 15 FCC Rcd 16720, 16728 ¶ 17 (2000) ("*WPS Order*").

absence of existing technological solutions that could facilitate public safety alerts on a broader scale, and the need to explore a variety of solutions and likely combinations of solutions to address existing limitations.

T-Mobile also has gained experience based on its active participation in the Wireless AMBER Alerts initiative, a voluntary arrangement among the wireless industry, law enforcement agencies, and the National Center for Missing & Exploited Children to provide free wireless AMBER Alert notifications to customers when a child is reported missing. Previously, such alerts were confined to radio and television broadcasts and road signs. Now, as part of wireless AMBER Alerts, short message service ("SMS")-based messages are sent to customers who register for the service. The technical aspects of this program were developed cooperatively by a carrier working group, and the program thus highlights the ability of the industry to make important contributions to public safety communications on a voluntary basis, without restrictive technical guidelines or cumbersome regulatory burdens. The program also serves as an important reminder that wireless services today are inherently best able to send alerts to limited populations in defined areas: AMBER Alerts are sent only to customers registered specifically to receive these messages. The program thus has provided T-Mobile and others with important experience using SMS-based alerts that might be useful for EAS, but cannot be translated into the broad-based alert broadcasts that are typical of other EAS providers.

T-Mobile also has dedicated itself to meeting its Enhanced 911 commitments. The company has responded vigorously to Public Safety Answering Point ("PSAP") requests for E-911 service and deploys the service as quickly as possible after a PSAP advises T-Mobile that it

has made any upgrade necessary for it to receive E-911 data.[9] While EAS requires a very different technological solution than E-911, T-Mobile has gained valuable experience working with the PSAP community in deploying E-911 requests.

Finally, as noted above, and in part in light of its experience in these initiatives, T-Mobile has been actively involved in wireless industry efforts, including those of 3G Americas, to explore the specific technological issues associated with the wireless provision of EAS messages. Such initiatives illustrate that substantial work lies ahead for both the government and the wireless industry before wireless systems will be ready to provide EAS effectively on a national or even regional basis. Unlike point-to-multipoint systems, such as traditional broadcast television that can serve all subscribers simultaneously, wireless systems typically are designed to serve only one-eighth of their subscriber base at any given time, because of cellular technology and spectrum use.[10] Thus, it could take a wireless provider *hours* to transmit an EAS message nationally, even while broadcast providers could provide the same message to all subscribers or viewers nearly instantaneously — not to mention simultaneously. Sending hundreds of thousands, or even more, simultaneous wireless messages could cause system congestion and could degrade other services, including voice calls that may be vital to private and public voice communications responding to the emergency.[11] Indeed, no existing

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[9] As reported in T-Mobile's most recent quarterly E-911 report to the Commission, as of late October, T-Mobile had deployed 1175 requests for Phase I service, and 2578 PSAPs were receiving Phase I information from T-Mobile. T-Mobile USA, Inc. E-911 Quarterly Report to Federal Communications Commission, Nov. 1, 2005, at 1. T-Mobile also had filled 730 Phase II requests by that date, and was providing Phase II information to 1809 PSAP entities. *Id.* at 2.

[10] Reply Comments of CTIA, *Review of the Emergency Alert System*, EB Docket No. 04-296, Nov. 29, 2004, at 4.

[11] *See generally*, GSM Paper.

technological solution can provide a complete solution to wireless EAS participation today, although it appears that, with time, the industry should be able to develop several solutions that may facilitate wireless provision of some types of EAS alerts over various geographic ranges in the future.

In short, T-Mobile's efforts and explorations to date lead us to support the Commission's recognition that "[w]ireless products are becoming an equal to television and radio as an avenue to reach the American public quickly and efficiently."[12] But these efforts also have reaffirmed that the ways in which wireless products may provide that avenue may be distinct from the way in which radio and television services do so, and may be substantially more complex. Further, the transition to wireless EAS will take time, money, and spectrum capacity, and can be effective only if the Commission provides the necessary support for the initial efforts that are underway, and works closely with the wireless industry to devise the most sensible and flexible strategies and frameworks, and ensures that wireless carriers participating in EAS are protected from liability in connection with their efforts. T-Mobile discusses the specific proposals below.

II. COMMENTS ON SPECIFIC FCC PROPOSALS IN THE *FNPRM*

A. To Best Serve The Public, The Commission Should Adopt a Voluntary Framework for Wireless EAS Participation.

In the FNPRM, the FCC asks what steps it should take "to facilitate wireless provision of alert and warning."[13] It is T-Mobile's firmly held view that — as with WPS, the FEMA pilot, and the AMBER Alerts initiative — the Commission should support and encourage wireless participation, but must make participation voluntary.

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12 *FNPRM* ¶ 69.

13 *Id.*

As noted above, wireless services and systems face unique challenges that would make it difficult and costly to offer EAS alerts on a national and regional basis at this time: The point-to-point technology used for mobile communications is not readily compatible with the point-to-multipoint delivery that is required for broadcast distribution of EAS messages, and wireless networks were not designed to allow simultaneous communication with all subscribers on the system or in a given area from a central point. As a result, the provision of wireless EAS will require unique technological solutions, which may not duplicate the capabilities of traditional EAS. Thus, it is not yet even clear what role wireless can or should play in supplementing traditional EAS; this is not something that government agencies and the industry have yet had an opportunity to explore meaningfully.[14] Accordingly, it is even less clear what it would mean today to require mandatory participation of wireless services in EAS.

Further, it is not clear that any wireless carriers *could* provide effective EAS communications today, or will be able to do so on any widespread basis in the near future. The technological challenges are significant and solutions still are in the exploratory stage. For example, while the GSM industry has already begun examining various means that it might use to provide wireless EAS messages — including SMS, multimedia messaging, EAS autodialers, enhanced SMS, cell broadcast services, radio capabilities in wireless handsets, and others — it appears, as discussed further below, that each of these solutions has significant limitations, and none offers a complete solution standing alone. And few of the relevant technologies or the required enhancements have even been tested in any wide-spread, real-world emergency alert situations. The biggest challenge will be sending EAS alerts to a large number of subscribers in

[14] And there is not even a unified system in place today that would allow all relevant federal government agencies — much less state and local ones — to transmit verified EAS messages to all wireless carriers (or withdraw, modify, or supplement such messages).

a broad area, but the various technologies raise many other challenges (and significant cost issues) as well.

It makes little sense to adopt mandatory rules at this early stage. Instead, wireless providers must be given time to work with federal, state, and local government officials to explore how EAS messages can be formatted and transmitted for wireless services, and what role wireless services can and should play in supplementing existing EAS communications. Once these issues are resolved, the industry will be in a better position to experiment with various technologies that can be used to provide various types of EAS messages. Adopting a supportive, voluntary framework for wireless EAS participation at this time therefore will enhance the likelihood of innovation and encourage wireless and governmental cooperation, which ultimately will best serve public safety needs and goals.

Moving too quickly, conversely, could create false expectations about wireless capabilities, leading to a false sense of security for consumers using wireless phones as a source of public safety information. This will benefit no one, and may create greater risks. Indeed, if wireless carriers (and government agencies) are not ready to implement effective EAS, the most likely effect of imposing mandatory rules at this point will be repeated waivers and/or penalties for wireless carriers — a result that can hardly be said to help advance emergency communications. Further, as the Commission's and the industry's experience with 911 handset replacement illustrates, the public interest is not served by basing assumptions about the availability of new capabilities on overly optimistic goals for handset replacement via normal market forces (*i.e.*, attrition or handset churn driven by new features). Nor, until the goals have been identified and the technologies tested, would it serve the public interest to consider deployment specifics, especially considering the potentially enormous EAS compliance costs on

wireless providers whose services already play a critical role in emergency communications for government organizations and the public in general.

And in the interim, while exploratory wireless EAS efforts go forward, the public still enjoys an ever-expanding array of sources of EAS alerts. While EAS will be *enhanced* by the addition of wireless services, the system already is intact and well-functioning today.[15] Accordingly, rather than push for mandatory wireless EAS rules, the Commission should adopt policies that support wireless carriers' voluntary EAS efforts and should support and provide guidance to federal, state, and local government agencies working with the wireless industry to devise practical solutions as these exploratory efforts go forward.

This is precisely what the Commission did in establishing WPS. There, the Commission recognized that because not all CMRS providers were technically capable of offering WPS at the time, a mandatory program would be inappropriate.[16] The Commission accordingly permitted CMRS carriers to offer WPS, set forth guiding parameters for the service, and limited CMRS provider liability when offering WPS, in order to promote and direct the development of the service. In addition, recognizing that not all carriers would be able to comply with every technical standard for WPS immediately, the Commission waived some of those standards for carriers who so requested.[17]

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15 *See, e.g.*, Comments of CTIA, *Review of the Emergency Alert System*, filed in EB Docket No. 04-296, Oct. 29, 2004, at 6 ("the core EAS works admirably well— and has worked for over 40 years.").

16 *WPS Order* at 16728 ¶ 17.

17 For example, the FCC granted T-Mobile a temporary waiver of a provision that required priority access service to be activated on a per-call basis, because handsets with such capabilities were not yet available for T-Mobile's system. *See* Memorandum Opinion and Order, *Voicestream Wireless Corp.; Petition for Waiver of Section 64.402 of the Commission's Rules*, 17 FCC Rcd 6134 (2002). Similarly, the FCC granted Verizon Wireless a temporary waiver to

B. EAS Should Serve National and Local Needs, But Must Be Centrally Managed.

T-Mobile supports extending EAS efforts to federal, state, and local governments.[18] While EAS has been specifically geared to federal needs, many of the most common EAS issues, like weather alerts, are inherently local in nature. Thus, an EAS that includes state and local government agencies will best serve public safety interests. However, in formally expanding EAS in this manner, the Commission must ensure that the EAS rules provide for one, central point for message generation and coordination (including message verification and withdrawal), regardless of whether the government agency involved is a state, local, or federal entity. Any other approach would be overly complicated for providers seeking to fulfill their public safety duties, and also would be far more expensive, requiring duplication of facilities and administrative efforts. This is a particularly serious concern for wireless providers, many of which are national in scope and thus could conceivably have to monitor hundreds of different message points if all parts of the process are not centralized.

Indeed, as a more general matter, EAS must be centrally managed so that the activities of different government bodies and jurisdictions can be coordinated and providers have a single point of contact and clear guidance regarding protocols and requirements. In order to accomplish this, T-Mobile proposes that NCS be tasked with the role of overall day-to-day

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provide one priority level instead of the required five priority levels because the equipment and software Verizon was using at the time was incapable of meeting this requirement. *See* Memorandum Opinion and Order, *Petition for Waiver of Section 64.402 of the Commission's Rules*, 20 FCC Rcd 13603 (2005).

[18] *See FNPRM* at ¶ 73 (recognizing "the historic and important role of states and localities in public safety matters, and the essential role that state and local governments play in delivering alert and warning" and seeking comment on "whether [FCC] rules should be amended to require EAS participants to transmit EAS messages issued by the governor(s) of the state(s) in which they provide service.")

manager for the EAS system, together with FCC oversight. This approach has worked well with respect to WPS, and should serve as a model for EAS.

NCS was created by Executive Order to administer and manage the telecommunications assets of twenty-three federal organizations in serving the national security and emergency preparedness needs of the federal, state and local governments.[19] NCS, which is now part of the Department for Homeland Security's Directorate for Preparedness, is ideally suited to work with both the communications industry and with government officials from all jurisdictions to coordinate technological solutions and message formats. The Department of Homeland Security already has a uniquely national viewpoint based on information from and ongoing communications with public officials from all jurisdictions that are focused on public safety issues, and NCS is uniquely familiar with the communications needs and abilities of all these bodies. Indeed, through its duties as the government-side administrator for WPS, as well as its administration of the Telecommunications Service Priority ("TSP") system, which governs the restoration of telecommunications service in emergencies, NCS has built up substantial expertise in public safety communications. It was for these very reasons that the FCC concluded that NCS should handle the day-to-day administration of WPS.[20] In addition, NCS already has a working group considering phase two WPS issues, and this could readily be expanded to consider EAS issues as well.

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[19] *WPS Order* at 16722 n.5 (citing Executive Order 12,472, Assignment of National Security and Emergency Preparedness Telecommunications Functions, 49 Fed. Reg. 13,471 (1984)).

[20] As the FCC noted, NCS "has shown that it seeks and takes heed of the comments and concerns of a broad array of wireless providers, users, and equipment manufacturers." *WPS Order* at 16736 ¶ 35.

Of course, the FCC also has a significant role to play in the coordination of EAS, and specifically with respect to efforts to expand EAS to wireless systems. As in the WPS model, it will be critical for the FCC to be involved in setting the ground rules for the service, regulating the providers, and coordinating with NCS.[21] The FCC also should be part of, and an active contributor to, NCS's working group on public safety issues, and should help guide and support the efforts of industry working groups as well. The FCC's soon-to-be created Bureau of Homeland Security and Public Safety should be at the forefront of the FCC's participation in the administration of EAS.

C. The FCC Should Adopt Rules Designed to Facilitate EAS Participation, Such as Common Messaging Protocols, But Should Be Careful Not to Hamper Development of Wireless EAS by Dictating Specific Technical Solutions.

T-Mobile supports the adoption of certain basic rules that would facilitate EAS participation, such as common EAS messaging protocols.[22] However, the Commission should *not* adopt specific technical solutions for the provision of EAS by wireless providers at this time. No viable solution has yet been developed for CMRS generally, and the Commission should encourage innovation and experimentation by leaving carriers free to try out the solutions that may work best for their systems, or, in all likelihood, the combination of different solutions that best overcome each provider's unique challenges and the needs of government agencies in different areas.

1. Messaging Protocols and Requirements

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[21] For example, it would be the FCCs' role to enforce the rules, consider carriers' applications for waivers from EAS requirements, and act as final authority regarding NCS decisions, as it does with respect to WPS.

[22] *See FNPRM* ¶ 67 (seeking comment on adoption of a common messaging protocol for distribution of digitally-based alerts over multiple platforms).

Common messaging protocols are designed to ensure that emergency alerts flow rapidly and simultaneously through all available conduits and first responders to the public. As the FCC notes, the Common Alerting Protocol ("CAP") has garnered the support of various organizations responsible for alerts.[23] Commission rules requiring use of a common protocol will facilitate the development of technical solutions for wireless EAS, providing manufacturers and carriers with confidence that all EAS equipment is and will be compatible with incoming public safety messages. This will ensure that providers have flexibility in purchasing equipment, which in turn will make EAS more cost effective. And common messaging protocols also advance public safety interests by ensuring that all providers — and thus all end users — will receive precisely the same message with precisely the same delivery parameters, thereby eliminating room for confusion and error.

The FCC also should make clear that EAS messages must be sent to carriers (or to the central message delivery point) in the proper, ready-to-send format, so that they can be transmitted without changes by carriers to the public. For wireless services, this likely will require that EAS messages be sent in text-ready format so that the messages can be sent via SMS. Without such a requirement, carriers could find themselves having to independently transcribe oral messages and translate them into writing — something that would take precious time in an emergency and introduce the possibility of critical errors within the message. For the same reason, while T-Mobile supports the notion of sending EAS messages in other languages,[24] translation must not be left to individual carriers. Wireless phones and devices can accommodate messages in any language that uses the English alphabet, but to ensure consistency

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23 *Id.*

24 *See id.* ¶ 81.

of message wording, as well as efficiency and timeliness, government officials must be responsible for providing the translations of an alert. Of course, until carriers have tackled the challenge of transmitting EAS alerts in *English,* it would make little sense to adopt any sort of rule requiring the provision of dual language alerts or a translation option. Such capabilities certainly may become available in the future but should not be mandatory at this time.

Similarly, T-Mobile recognizes that EAS alerts must be made accessible to persons with disabilities.[25] EAS alerts today already are largely accessible since they typically are broadcast both in writing and orally over various media.[26] It may be possible, depending on the solution used for particular carriers' wireless EAS services, to offer wireless subscribers a similar choice of oral versus text-based EAS alerts in order to provide another means of accommodating the needs of visually and hearing impaired subscribers. But, while wireless providers should be encouraged to provide these options, there is no need to adopt such requirements now, given other EAS options, and it would make little sense at this early stage: carriers should instead be free to focus on the more basic technological challenges first. Further, both oral and written EAS alerts should be provided by government organizations themselves, not left to the individual carrier to translate.

2. Technical Solutions for Wireless Provision of EAS

While basic messaging rules are critical to the development of EAS and to wireless participation in particular, the adoption of other types of specific technical requirements for

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25 *See id.* ¶ 74.

26 47 C.F.R. §§ 11.32, 11.51, 11.54(b)(5)-(6), 11.55(c)(4), 73.1250(h); *FNPRM* ¶ 75 & nn.212-14.

wireless EAS would be extremely ill-advised.[27] As it did in WPS, the FCC should adopt common protocols but then allow the industry, working with government, to explore appropriate technical solutions to providing the service on its own. As discussed above, it is too early to adopt any particular technological solution for wireless EAS, and there is no basis for the Commission to prefer any one solution over others at this point, or to know what solution or combination of solutions will ultimately prove effective and for which EAS needs. The Commission must adopt an approach that will promote broad innovation and creative experimentation with various solutions and combinations of solutions based on input from national, state, and local government agencies and the needs and experience of various carriers.

Studies undertaken by T-Mobile and others underline how important this is. After evaluating 11 different technical solutions for GSM carriers, the industry widely agrees that none, standing alone, currently would allow carriers to satisfy existing EAS requirements on a broad basis. Point-to-point-type services, when enhanced with geo-location capabilities, may be possible solutions for small scale EAS communications, while point-to-multipoint technologies appear to be more promising for wider geographic message disseminations. But both have drawbacks based on existing technology and software, and carriers are not in a position to implement *either* today as full-fledged EAS solutions.

This is because, today, SMS messages cannot be directed to geographically specific areas. They accordingly *must* be sent to subscribers regardless of their location — even if they are roaming out of region. This not only means subscribers may get misleading alerts that cause unnecessary panic or confusion, but also that any SMS message would have to be sent to a broader group of subscribers than necessary, slowing the pace of message delivery and thus

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[27] *See FNPRM* ¶ 68.

seriously compromising the effectiveness that a wireless SMS-based EAS transmission could offer today. This is not readily solved, because existing handsets do not support geo-location enhanced SMS at this time, and it will be some time before this can be addressed technologically and all handsets in consumer hands can be replaced. There are additional challenges, as well: SMS messages currently are limited to 140-160 characters and thus message length would be limited to fundamental information in the event of an emergency; thus, at least in the foreseeable future, government agencies would have to somehow account for this in transmitting wireless-capable EAS messages. Furthermore, SMS capacity is limited by existing signaling networks. Typically, there are only two signaling channels per cell site. Thus, an SMS-based EAS message that must be sent to all subscribers nationwide could take hours to reach all recipients; even a broad regional message would be very time-consuming.

Point-to-multipoint "broadcast" solutions for wireless networks are still largely experimental. Most operators have not deployed infrastructure that could support point-to-multipoint service, and handsets also typically are not compatible with such technologies. Further, current technology would not permit a user to view the text of a "broadcast" message if he or she is engaged in a voice call while the alert is being broadcast. And finally, the costs of implementing point-to-point broadcast infrastructure and upgrades will be particularly high.

Other solutions have similar limitations. Autodialers, for example, may have significant impact on voice network capacity, particularly for large-scale alerts. And options that involve incorporation of a radio in a handset will have to overcome challenges like battery drainage, antenna configuration in small form factor handsets, and the need for the user to tune to the proper frequency. In addition, of course, this would require new handset deployment.

Until the industry experiments further with these solutions, it clearly makes no sense for the Commission to adopt rules dictating the use of any particular technology or even defining basic parameters for the solutions that may be adopted. Indeed, it is not yet clear exactly how much some of the network upgrades and handset replacement involved in various solutions will cost. It may ultimately prove too prohibitive to consider some solutions, regardless of their utility, at least unless the government is prepared to offer substantial cost support. Furthermore, different solutions may work better for different systems or providers or for different types of emergency communications needs.[28] At this point, given the paucity of experience, the Commission should adopt a technologically neutral approach. As long as a solution makes use of the common message protocol and can transmit EAS alerts in some manner, providers should be permitted to employ it to experiment with providing EAS.[29]

Further, *any* rules the FCC adopts must provide the wireless industry with sufficient time to develop workable and efficient EAS solutions. Time will be needed to study technological solutions and work with government agencies to determine whether and how existing EAS requirements should be modified to accommodate wireless technology as a supplement to other EAS services. At the same time, government agencies will have to determine how best to transmit verified EAS messages for wireless transmission, which may have to be different in

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[28] For example, a carrier whose network has just been upgraded might be more reluctant to deploy a solution that requires wholesale deployment of new infrastructure. Or a carrier serving only a small number of subscribers or a small geographic region may determine, together with government agencies, that an SMS-based solution is sufficient, while a carrier serving a broader population or region may need another technology or a combination of technologies for various types of alerts.

[29] Further, as it did in WPS, the Commission should recognize that it may need to grant individual carriers more time and flexibility in complying with *any* protocols or technological requirements, in light of the different challenges each carrier may face.

kind and substance from other types of EAS alerts — something that must be factored into any timetable.

In addition, as discussed below, no wireless carrier can be expected to begin making the substantial upgrades that will be needed to provide EAS until the cost support questions are addressed. Since the wireless industry already is voluntarily exploring the provision of EAS and has proven its genuine dedication to participating in emergency communications in a variety of ways, and since other EAS services already serve the public today (and even more services will soon be providing EAS[30]), there is no need for the Commission to impose short (or mandatory) timelines. As discussed above, forcing carriers to move too quickly before all of this has been resolved will create false expectations that providers may not be able to fulfill, and will impose unreasonable costs and burdens on services that already are playing a critical role in emergency communications.

D. The FCC Must Ensure That the Costs and Burdens of Wireless EAS Are Reasonable and Are Distributed Evenly.

The costs of implementing EAS for wireless carriers will almost certainly be very high. Indeed, all of the potential wireless EAS solutions will come at substantial costs, requiring infrastructure, software, and/or handset or device upgrades. These costs are unique to wireless providers, because these carriers alone among EAS participants (or potential participants) must overcome an inherently point-to-point network design. Accordingly, in asking wireless carriers to step up and provide EAS alerts in order to enhance public safety, the FCC (and government generally) must be prepared to ensure that the costs and burdens of providing wireless EAS are reasonable and do not unfairly burden some or all wireless providers.

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30 *See FNPRM* ¶ 17.

As a preliminary matter, it will be critical to make government funding available for research, development and deployment of wireless EAS capabilities, as was done in the WPS context. The costs of overhauling wireless systems to provide EAS capabilities will be even larger than in WPS, which makes such government funding all the more important.[31] NCS funded technical development and implementation of priority features in carrier networks in order to encourage and facilitate wireless carrier provision of WPS services, and it continues to fund WPS infrastructure enhancements.[32] The Commission should ensure that the same approach is taken for wireless participation in EAS. NCS can play a critical role in coordinating the cost and technology development issues between government agencies and the industry, as part of the oversight role we have proposed it play in wireless EAS.

In the absence of centralized government funding for wireless participation in EAS, the only practical way in which wireless carriers could afford to make the upgrades necessary to provide the service would be to recover their costs either from the public, through a subscriber charge, or from the government agencies participating in EAS. While it is not entirely clear that these are viable means of funding a critical public safety measure, neither is leaving carriers to shoulder these costs themselves. Indeed, that is the one approach that is most certain to derail efforts to develop and deploy EAS solutions. If the government determines that the public safety benefits of retrofitting wireless systems and replacing equipment outweighs the costs, it should be prepared to cover those costs as part of the nation's critical public safety agenda.

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[31] The Senate already has recognized that expansion of EAS to wireless and other technologies will require substantial funding: The WARN bill would provide at least $250 million for research, development, and deployment of technologies and equipment to operate alert systems. Warning, Alert, and Response Network Act, S. 1753, 109th Cong. (2005).

[32] Wireless Priority Service: Cost, http://wps.ncs.gov/(last visited Jan. 20, 2006); Wireless Priority Service: Carriers, http://wps.ncs.gov/ (last visited Jan. 20, 2006).

E. The FCC Must Adopt Rules That Explicitly Limit the Liability of Carriers Who Participate in EAS.

Like any system that relies on technology, wireless provision of EAS alerts will, at times, prove imperfect. Wireless carriers cannot be asked to undertake the enormous burden of transitioning their systems to provide EAS alerts to benefit the public without the guarantee that doing so will not subject them to liability when a particular message fails to transmit 100% effectively. As it did in connection with WPS, the FCC must adopt rules explicitly limiting liability for carriers with respect to their participation in the system. As the Commission noted in that context, without such protection, it is unlikely that any carrier would voluntarily participate.[33] The limitation of liability for participation in EAS must be broader than it is in connection with WPS, where the FCC has limited liability only with respect to liability under the Communications Act.[34] Here, the FCC should provide broad immunity from all types of liability, including under state law, to carriers who provide EAS alerts.[35] Indeed, the Commission has broad authority to preempt state laws and causes of action that would interfere with the accomplishment of its valid interest in enhancing and expanding public safety communications. As the Commission recently noted in a different rulemaking context: "It is recognized widely that federal law preempts state law where, as here, the state law would 'stand as an obstacle to the accomplishment and execution of the full purposes and objectives of

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[33] *See WPS Order* at 16730 ¶ 22.

[34] *Id.* at 16730-31 ¶¶ 22-23.

[35] Although wireless carriers may limit liability in their contracts, federal clarity on this issue and preemption of contrary state interpretations is critical to avoid litigation and provide appropriate incentives for carriers voluntarily to participate in EAS.

Congress,' or of federal regulations."[36] And it is well established that the Commission's preemptive authority extends to state causes of action as well as statutes.[37]

Indeed, Congress already has approved this general notion; the Wireless Communications and Public Safety Act of 1999 provides wireless carriers with protection from liability under federal and state law, particularly with respect to emergency calls. While this legislation is focused on liability for transmitting 911 calls, it demonstrates Congress's general understanding that carriers should be encouraged to provide the public with public safety communications tools without fear of liability; doing the same with respect to EAS communications is clearly consistent with this federal policy goal.

CONCLUSION

Wireless phones can be a critical component in EAS, both in alerting the public about an emergency and in providing the public with a powerful tool to react to that emergency. However, using wireless technology to provide EAS alerts presents unique technological and financial challenges that must be addressed before any definitive regulatory program can be

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[36] Second Report and Order, Declaratory Ruling, and Second Further Notice of Proposed Rulemaking, *Truth-in-Billing and Billing Format*, 20 FCC Rcd. 6448, 6466 ¶ 35 (2005) (footnotes omitted) (quoting *Fidelity Federal Sav. and Loan Ass'n v. De La Cuesta*, 458 U.S. 141, 153 (1982)).

[37] *See id.*, 6462-63 ¶ 30 & n.84 (declaring that state regulations, including judicial actions, that require or prohibit line items on wireless bills are preempted by the Act); *see also* Memorandum Opinion and Order, *Wireless Consumers Alliance, Inc.*, 15 FCC Rcd 17021, 17027 ¶ 12 (2000) (concluding that judicial action constitutes state regulatory action); Declaratory Ruling, *Exclusive Jurisdiction With Respect to Potential Violations of the Lowest Unit Charge Requirements of Section 315(b) of the Communications Act of 1934*, 6 FCC Rcd 7511, 7511-12 ¶ 7 (1991) (preempting any state cause of action based on section 315(b) of the Act). Agency authority to preempt state causes of action has likewise been upheld by the courts. *See, e.g., Geier v. American Honda Motor Co.*, 529 U.S. 861 (2000) (holding DOT regulations preempted state law tort claims).

adopted. T-Mobile looks forward to working with the FCC and other government agencies in all jurisdictions to address these challenges by finding innovative and effective means of promoting public safety through wireless communications.

Respectfully submitted,

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